

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
17 February 2005 (17.02.2005)

PCT

(10) International Publication Number  
**WO 2005/015676 A2**

(51) International Patent Classification<sup>7</sup>: **H01M 10/36**,  
6/18, H01G 9/04, H01M 4/62

(21) International Application Number:  
PCT/GB2004/003425

(22) International Filing Date: 6 August 2004 (06.08.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0318644.2 8 August 2003 (08.08.2003) GB

(71) Applicant (for all designated States except US): **LEXCEL  
TECHNOLOGY LIMITED** [GB/GB]; 35 Manor Road,  
Henley-on-Thames, Oxon RG9 1LU (GB).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **GILMOUR, Alexan-  
der** [GB/GB]; 35 Manor Road, Henley-on-Thames, Oxon  
RG9 1LU (GB).

(74) Agent: **JONES, Graham, Henry**; Graham Jones & Com-  
pany, 77 Beaconsfield Road, Blackheath, London SE3 7LG  
(GB).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,  
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

**Declaration under Rule 4.17:**

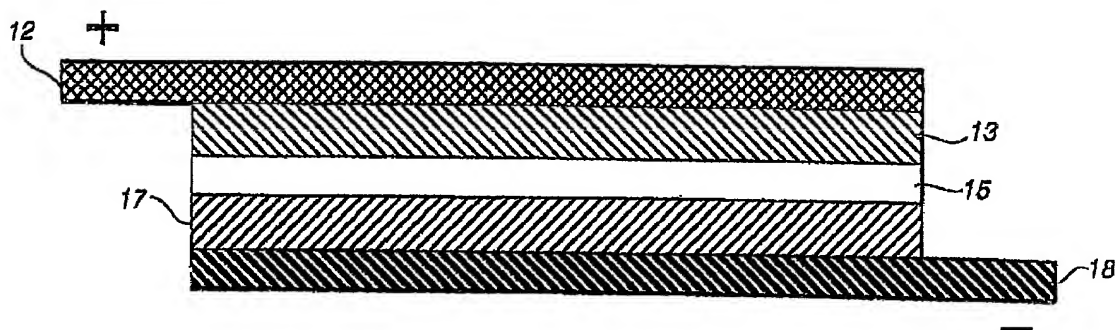
— of inventorship (Rule 4.17(iv)) for US only

**Published:**

— without international search report and to be republished  
upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: ELECTROCHEMICAL CELL HAVING "IN SITU GENERATED" COMPONENT



(57) Abstract: An electrochemical cell having a solid polymer separator/electrolyte whose ion conductivity is markedly increased by in situ generation of a fluid acidic anhydride. The electrochemical cell comprises a solid polymer electrolyte, an anode of an alkali or alkaline earth metal such as lithium and a cathode containing the lithium or other alkali or alkaline earth metal salt of the acid anhydride to be electrochemically generated in addition to the main active material. The salt has the formula  $MA_xO_y$  where M is an alkali or alkaline earth metal such as lithium and A is a non-metallic element such as sulphur, nitrogen, carbon or phosphorus  $0.3 < x < 2.0$  and  $1.3 < y < 4$ . The electrochemical cell has a much improved rate capability and low temperature performance, but no liquid constituents are required for assembly of the cell.

WO 2005/015676 A2